ABSTRACT OF THE DISCLOSURE

Apparatus and method for measuring an optical imaging system, and detector unit. The measuring apparatus contains an arrangement for combining wavefront and distortion measurements. For this purpose, respectively associated interferometry and Moiré structures can be introduced on the object side and image side. The detector unit contains a fiber plate and/or a flexible image conductor with a curved entry surface or with at least two different entry surfaces, which are offset axially or inclined spatially with respect to each other, or with an axially movable entry surface. By way of suitable wavefront acquisition in various lateral positions of object and/or image structure, a topographic calibration of the object or image structure can be carried out. Furthermore, by way of a Moiré technique, the lateral displacement travel in phase-shifting steps for the wavefront acquisition and, by way of point diffraction interferometry, the axial relative position of object and image structure can be determined highly accurately. The apparatus and method are used, in particular, for measuring lenses in microlithography installations.